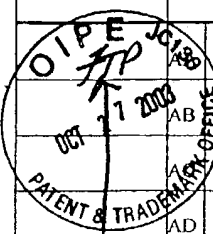


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	Applicant Jacobsen et al.			
	Filing Date July 7, 2003		Group Art Unit To be Assigned	

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
 A vertical line with an arrow pointing down from the stamp to the 'ATP' mark in the first column.	3,868,401	02/1975	Aratani et al.	260	468	
	AB 4,151,195	04/1979	Warnant et al.	260	465	
	4,471,130	09/1984	Katsuki et al.	549	523	
	AD 4,538,003	08/1985	Tam	568	656	
	AE 4,565,845	01/1986	Inoue et al.	525	25	
	AF 4,663,467	05/1987	Kruper, Jr. et al.	549	229	
	AG 4,822,899	04/1989	Grove et al.	549	533	
	AH 4,870,208	09/1989	Chan et al.	562	579	
	AI 4,885,376	12/1989	Verkade	556	18	
	AJ 4,594,439	06/1986	Katsuki et al.	549	523	
	ATP AK 4,965,364	10/1990	Marko et al.	546	134	

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER		DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO
<div>ATP</div> <div>↑</div>	AL	EP 0 342 615	Nov. 89	EPO	—	—	X	
	AM	WO 91/14694	Oct. 91	PCT	—	—	X	
	AN	GB 2 244 055 A	20 Nov. 91	PCT	—	—		X
	AO	WO 93/03838	Mar. 93	PCT	—	—	X	
	AP	WO 96/28402	19 Sept. 96	PCT	—	—		X
<div>ATP</div> <div>↓</div>	AQ	P9500057	05-1997	HU	—	—		X

OTHER DOCUMENTS


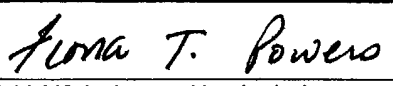
(Including Author, Title, Date, Pertinent Pages Etc.)

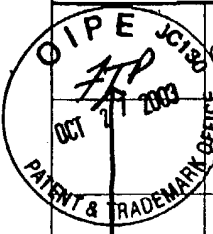
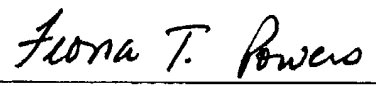
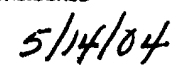
ATP	AR	Adam, W. et al., "Tridentate β -Hydroperoxy Alcohols As Novel Oxygen Donors For The Titanium-Catalyzed Epoxydation of ν, δ -Unsaturated α, β -Diols: A Direct Diastereoselective Synthesis Of Opoxy Diols", Angew Chem. Int Ed, Engl 33(10):1170-1108 (1994).
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	AU	5,093,491	03/1992	Ellis, Jr. et al.	540	135		
	AV	5,126,494	06/1992	Gilheany et al.	568	807		
	AW	5,250,731	10/1993	Burk	564	150		
	AX	5,254,704	10/1993	Takano et al.	549	552		
	AY	5,258,553	11/1993	Burk	568	12		
	AZ	5,296,595	03/1994	Dolye	540	200		
	BA	5,310,956	05/1994	Takano et al.	549	529		
	BB	5,312,957	05/1994	Casalnuovo et al.	558	410		
	BC	5,321,143	06/1994	Sharpeless et al.	549	34		
	BD	5,352,814	10/1994	Katsuki et al.	556	50		
	BE	5,360,938	11/1994	Babin et al.	568	449		
	BF	5,665,890	09/1997	Jacobsen et al.	549	230		
	BG	5,929,232	07/1999	Jacobsen et al.	540	145		
	BH	6,262,278	07/2001	Jacobsen et al.	549	230		
V FTP	BI	6,448,414	09/2002	Jacobsen et al.	549	230		
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FTP	BJ	Barili, P. et al., "Regio- and Stereochemistry Of The Acid Catalyzed And Of a Highly Enantioselective Enzymatic Hydrolysis of Some Epoxysterahydrofurans", Tetrahedron 49(28): 6263-6276 (1993).						
FTP	BK	Brandes, B. and E. Jacobsen, "Highly Enantioselective, Catalytic Epoxidation Of Trisubstituted Olefins", J. of Am. Chem. Soc. 59: 4378-4380 (1994).						
FTP	BL	Chang, S. et al., "Effect of Chiral Quaternary Ammonium Salts On (Salen) Mn-Catalyzed Epoxidation Of Cis-Olefins. A Highly Enantioselective, Catalytic Route to Trans-Epoxides" J. Am. Chem. Soc. 116 (15): 6937-6938 (1994).						
FTP	BM	Chen, X. et al., "Microbiological Transformations 27. The First Examples for Preparative- Scale Enantioselective or Diastereoselective Epoxide Hydrolyses Using Microorganisms. An Unequivocal Access to All Four Bisabolol Stereoisomers", J. of Am. Chem. Soc. 58(20): 5528-5532 (1993).						
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	BN	Collman, J. et al., "Regioselective and Enantioselective Epoxidation Catalyzed by Metalloporphyrins", Science, 261:1404-1411 (1993).			
	BO	Collman, J. et al., "Enantioselective Epoxidation Of unfunctionalized Olefins Catalyzed By Threitol-Strapped Manganese Porphyrins", J. of Am. Chem. Soc. 115:3834-3835 (1993).			
	BP	Corey, E. and F. Hannon, " Chiral Catalysts For The Enantioselective Addition Of Organometallic Reagents to Aldehydes", Tetrahedron Letters 28(44):5233-5236 (1987).			
	BQ	Desimoni, G. et al., "Copper(II) In Organic Synthesis X(*). The Importance of Steric Hindrance In The Design of Chiral Tridentate Ligand Copper (II) Catalysts For Enantioselective Michael Reactions(**) Gazzetta Chimica Italiana 122: 268- 273 (1992).			
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	BT	Groves, G. and R. Neumann, " Membrane-Spanning Steroidal Metalloporphyrins as Site-Selective Catalysts in Synthetic Vesicles" J. Am. Chem. Soc. 109:5045-5047 (1987).			
	BU	Hayashi, M. et al., "Novel Asymmetric Ring-Opening Reactions of Symmetrical N-Acylaziridines with Arenethiols Catalysed by Chiral Dialkyl Tartrate-Diethylzinc Complexes", J. of Chem. Soc. Chem. Commun. No 23: 2699-2700 (1994).			
	BV	Hayashi, M. et al., " Asymmetric Ring-Opening of Symmetrical Epoxides With Trimethylsilyl Azide Using Chiral Titanium Complexes ", Synlett. No 11: 774-776 (1991).			
	BW	Jameson, D. "2,6 Bis (N-pyrazolyl) Pyridines: The Convenient Synthesis of a Family of Planar Tridentate N3 Ligands that are Terpyridine Analogues ", J. of Organ. Chem. 55: 4992-4994 (1990).			
	BX	Jacobsen, E. et al., " Highly Enantioselective Epoxidation Catalysts Derived from 1,2- Diaminocyclohexane ", J. Am. Chem. Soc. 113:7063-7064 (1991).			
	BY	Knebel, W. and R. Angelici, "Kinetic and Equilibrium Studies of Bi- and Tridentate Chelate Ring -Opening Reactions of Metal Carbonyl Complexes ", Inorganic Chemistry 13(3): 632-637(1974).			
	BZ	Krupe, W. and Dellar, D. "Catalytic Formation of Cyclic Carbonates From Epoxides and CO2 With Chromium Metalloporphyrins", J. Org. Chem. 60:725-727 (1995).			
	CA	Larrow, J. and E. Jacobsen, "Kinetic Resolution of 1,2-Dihydronaphthalene Oxide and Related Epoxides Via Asymmetric C-H Hydroxylation", J. Am. Chem. Soc. 116: 12129-12130 (1994).			
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	CC	Leighton, J. et al., "Efficient Synthesis of (R)-4-((Trimethylsilyloxy)-2-Cyclopentenone by Enantioselective Catalytic Epoxide Ring-Opening", Journal of Organic Chemistry vol. 61: No1, pp 389-390 (1996).	
	CD	Li, Z. et al., "Asymmetric Alkene Aziridination With Readily Available Chiral Diimine-Based Catalysts", J. Am. Chem. Soc. 115(12):5326-5327 (1993).	
	CE	Marangoni, G. and B. Pitteri "Crystal Structure of Cationic Square Planar Platinum (II) Complexes Containing The Tridentate Chelate Ligand 2,6-Bis(methylthiomethyl)Pyridine", Polyhedron 12(13):1669- 1673 (1993).	
	CF	Martinez, L. et al., "Highly Enantioselective Ring Opening of Epoxides Catalyzed by (Salen) Cr(III) Complexes", J. Am. Chem. Soc. 117:5897-5898 (1995).	
	CG	Maruoka, K. et al., "An Efficient, Catalytic Procedure For Epoxide Rearrangement", Tetrahedron Letters 30(41): 5607-5610 (1989).	
	CH	Maruyama, K. et al., "Cobalt Schiff Base Complex Catalysed Solvolytic Ring Opening of Epoxy Compounds", React. Kinet. Catal. Lett. 45(2): 165-171 (1991).	
	CI	Narasaka, K. "Chiral Lewis Acids In Catalytic Asymmetric Reactions", Synthesis, pp 1-11 (January 1991).	
	CJ	Nugent, W. et al., "Beyond Nature's Chiral Pool: Enantioselective Catalysis In Industry", Science 259:479-483 (1993).	
	CK	Nugent, W. "Chiral Lewis Acid Catalysis. Enantioselective Addition of Azide to Meso Epoxides", J. Am. Chem. Soc. 114: 2768-2769 (1992).	
	CL	Oppolzer, W. and R. Radinov, "Enantioselective Synthesis of Sec-Allyl alcohols by Catalytic Asymmetric Addition of Divinylzinc To Aldehydes", Tetrahedron Letters, 29(44): 5645-5648 (1988).	
	CM	Ozaki, S. et al., "Synthesis of Chiral Square Planar Cobalt (III) Complexes and Catalytic Asymmetric Epoxidation With There Complexes", J. of Chem. Soc. Perkin Trans. 2, Issue 1: 353-359 (1990).	
	CN	Palucki, M. et al., "Highly Enantioselective, Low-Temperature Epoxidation of Styrene", J. Am. Chem. Soc. 116: 9333-9334 (1994).	
	CO	Palucki, A. et al., "Asymmetric Oxidation of Sulfides With H2O2 Catalyzed By (Salen) Mn (III) Complexes", Tetrahedron Letters, 33 (47):7111-7114 (1992).	
	CP	Ready and Jacobsen., "Asymmetric Catalytic Synthesis of α -Aryloxy Alcohols: Kinetic Resolution of Terminal Epoxides via Highly Enantioselective Ring-Opening with Phenols", J. Am. Chem. Soc. 121: 6086-6087 (1999).	
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		Sasaki, H. et al., "Rational Design of Mn- Salen Catalyst 2: Highly Enantioselective Epoxidation of Conjugated cis Olefins", Tetrahedron 50(41): 11827-11838 (1994).	
		Schurig, V. and F. Betschinger, "Metal-Mediated Enantioselective Access to Unfunctionalized Aliphatic Oxiranes: Prochiral and Chiral Recognition", Chem. Rev. 92:873-888 (1992).	
	CS	Srinivasan, K. et al., "Epoxidation of Olefins With Cationic (Salen) Mn III Complexes. The Modulation of Catalytic Activity By Substituents ", J. Am. Chem. Soc. 108:2309-2320 (1986).	
	CT	Stinson, S. " Chiral Drugs ", Chemical and Chemical Engineering News , pp 46-79 (September 28, 1992).	
	CU	Tokunaga et al., " Asymmetric Catalysis With Water: Efficient Kinetic Resolution of Terminal Epoxides by Means of Catalytic Hydrolysis", Science , 277:936-938 (1997).	
	CV	Ward, R. " Non-Enzymatic Asymmetric Transformations Involving Symmetrical Bifunctional Compounds", Chem. Soc. Rev. 19:1-19 (1990).	
	CW	Woolley, P. "Models For Metal Iron Function In Carbonic Anhydrase", Nature, 258:677-682 (1975).	
	CX	Yamashita, H. "Metal(II) d-Tartrates Catalyzed Asymmetric Ring Opening Of Oxiranes With Various Nucleophiles", The Chemical Society of Japan 61: 1213-1220 (1988).	
	CY	Zhang, W. et al., "Enantioselective Epoxidation Of Unfunctionalized Olefins Catalyzed By (Selen)manganese Complexes ", J. Am. Chem. Soc. 112: 2801-2803 (1990).	
	CZ	Zhang, W. and E. Jacobsen, "asymmetric Olefin Epoxidation With Sodium Hypochlorite Catalyzed by Easily Prepared Chiral Mn (III) Salen Complexes ", J. of Org. Chem. 56:2296-2298 (1991).	
	DA	International Search Report completed November 18 1999 and mailed December 12, 1999.	
↓ FTP	DB	International Search Report completed 17 July 1996 and mailed 25 July 1996.	
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